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JUL 15 1981

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Harvard University

Energy & Environmental Policy Center
John F. Kennedy School of Government
and
Interdisciplinary Programs in Health
School of Public Health

present

International
Symposium on
Indoor Air Pollution,
Health and Energy
Conservation

October 13-16, 1981

Conference Center
University of Massachusetts
Amherst, Massachusetts

SYMPOSIUM SPONSORS

U.S. Environmental Protection Agency
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Mr. HC
Dr. Robert S.
Trouble developing
here - will discuss.
AB

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Symposium Objectives

For the first time since 1978 there is an opportunity for the international community of scientists, engineers, architects, physicians and others to convene for the purpose of discussing the advances and challenges of indoor environments. This Symposium will present over 100 papers on sources, concentrations, health effects, ventilation, control, regulation and policy related to indoor air pollution. Our sponsors have recognized that no single discipline or professional society is currently prepared to provide the forum that this symposium offers. Our indoor spaces are complex. Solving the problems of indoor pollutant exposure, evaluation of new products, balancing energy conservation and public health will require that we interact. We look forward to your participation.

Participants

The Symposium is intended for scientists, engineers, researchers, and regulators from universities, industry, research laboratories, government agencies, manufacturing companies, environmental interest groups, and international organizations. The Symposium is open to other individuals who consider their participation relevant and beneficial to their current and future activities.

Symposium Committee

SESSION CHAIRPERSONS

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Program The following is a tentative schedule of the sessions and may be subject to change.

TUESDAY, OCT. 13

Opening Session A 9:00 a.m.-12:30 p.m.

Session A-Characterization of the Indoor Environment

Chairpersons: Ole Fanger, Technical University of Denmark, Lyngby, Denmark; John Yocom, TRC, Inc., Wethersfield, Connecticut

WELCOMING ADDRESS-John D. Spengler, Harvard School of Public Health, Boston, Massachusetts

EUROPEAN RESEARCH ON INDOOR

ENVIRONMENTS-Ole Fanger, Technical University of Denmark, Lyngby, Denmark

FEDERAL ACTIVITIES ON INDOOR ENVIRONMENTS IN THE UNITED STATES-David Berg, U.S.

Environmental Protection Agency, Washington, D.C.

Olfactory and Chemical Characterization of Indoor Air-Towards a Psychophysical Model for Air Quality, B. Berglund, U. Berglund, T. Lindvall, and H. Nicander-Bredberg, Department of Psychology, University of Stockholm, Stockholm, Sweden

Multipollutant Sampler for Indoor and Outdoor Ambient Air, L.D. Pengelly, A.T. Kerigan, C.H. Goldsmith, W. Furlong, W. Spurgeon, and S. Toplack, Urban Air Environment Group, Department of Medicine, McMaster University, Ontario, Canada

Trace Organic Contaminants in Office Spaces, R.R. Miksch and H. Schmidt, Energy and Environmental Division, Lawrence Berkeley Laboratory, University of California, Berkeley, California

Nitrogen Dioxide Pollution in the Netherlands, E. Lebret, B. Brimekreel, and J. Boleij, Department of Environmental and Tropical Health, Wageningen, Netherlands

Indoor Climate Problems in Danish Dwellings, O. Valbjørn, P. Nielsen, and J. Kjaer, Danish Building Research Institute, Hørsholm, Denmark

Carbon Monoxide and Aerosol Concentrations in Public Access Buildings, D. Moschandreas, Geomet Technologies, Inc., Rockville, Maryland

An Inexpensive Perfluorocarbon Tracer Technique for Wide-Scale Infiltration Measurement in Homes, R. Dietz, E. Cote, G. Senum, and R. Wieser, Brookhaven National Laboratory, Department of Energy and Environment, Upton, New York

Indoor Radon Levels. Field Experience Using the Track Etch (R) Method, H.W. Alter, Terradex Corporation, Walnut Creek, California

New Instrumentation Adaptable to Indoor Air Pollution Studies, W.A. McClenny, and R.K. Stevens, Environmental Protection Agency, Research Triangle Park, North Carolina

Afternoon Parallel Session

2:00 p.m.-5:30 p.m.

Session B1-Characterization of Radon in the Indoor Environment

Chairpersons: Ralph Perhac, Electric Power Research Institute, Palo Alto, California; Demetrios Moschandreas, IIT Research Institute, Chicago, Illinois

Distribution of Indoor Radon Concentrations and Source Magnitudes, A.V. Nero and W.W. Nazaroff, Energy and Environment Division, Lawrence Berkeley Laboratory, University of California, Berkeley, California

Radon Concentrations in Buildings and Regional Geology, H.M. Sachs, R. Manlowe, T.L. Hernandez, and J.W. Ring, Geological and Geophysical Sciences, Princeton University, Princeton, New Jersey

Air Filtration and Radon Daughter Levels, N. Jonassen, Laboratory of Applied Physics I, Technical University of Denmark, Lyngby, Denmark

Measurement and Modeling the Time Variations of Airborne ²²²Radon Concentrations in Houses in Maine, USA, C.T. Hess, Department of Physics & Astronomy, University of Maine, Orono, Maine

Radon Levels in Homes in the Northeastern United States: Energy-Efficient Homes, R.L. Fleischer, A. Mogro-Campero and L.G. Turner, General Electric Research and Development Center, Schenectady, New York

Indoor Radon Concentrations, D.J. Moschandreas and H.E. Rector, Geomet Technologies, Inc., Rockville, Maryland

Instrumentation for a Radon Research House, W.W. Nazaroff, K.L. Revzan, and A.W. Robb, Energy and Environment Division, Lawrence Berkeley Laboratory, University of California, Berkeley, California

Modeling Radon Daughter Concentrations in Non-Equilibrium Situations, A. Robertson and A.G. Scott, DSMA ATCON LTD., Toronto, Ontario, Canada

Evaluation of Eberline's New Microcomputer Based Radon Daughter Instrument, D.H. Fine, New England Institute for Life Sciences, Waltham, Massachusetts

Sources of Indoor Radon, R.C. Bruno, General Radiation Standards Branch, Criteria & Standards Division, Office of Radiation Programs, U.S. Environmental Protection Agency, Washington, D.C.

The Activity of Radon Daughters in a High-Rise Building, F. Adu-Jarad and J.H. Frenlin, Department of Physics, University of Birmingham, Birmingham, United Kingdom

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Afternoon Parallel Session

2:00 p.m.-5:30 p.m.

Session B2-Characterization of Formaldehyde and Other Organic Pollutants in the Indoor Environment

Chairpersons: Ib Andersen, Danish National Institute of Occupational Health, Denmark; Craig Hollowell, Lawrence Berkeley Laboratory, Berkeley, California

An Inexpensive Passive Formaldehyde Monitor for Indoor Air Quality Measurements, A.R. Hawthorne and T.G. Matthews, Monitoring Technology and Instrumentation Group, Health and Safety Research Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee

A New Passive Monitor for Determining Formaldehyde in Ambient Air, R.R. Miksch, K. Geisling, and S. Rappaport, Energy and Environment Division, Lawrence Berkeley Laboratory, University of California, Berkeley, California

Formaldehyde Release from Formaldehyde-Resin Containing Products: Effect of Conditioning at 100% Relative Humidity, J.A. Pickrell and L.C. Griffiths, Lovelace Inhalation Toxicology Research Institute, Albuquerque, New Mexico

Comparison of the Chromotropic Acid and Pararosaniline Methods for HCHO Determination Using Various Collection Techniques, A.D. Eckmann, State Laboratory of Hygiene, Madison, Wisconsin; K.A. Dally, L.P. Hanrahan, and H.A. Anderson, Wisconsin Division of Health, Madison, Wisconsin

A Follow-Up Study of Indoor Air Quality in Wisconsin Homes, K. Dally, L. Hanrahan, and H. Anderson, Wisconsin Division of Health, Madison, Wisconsin; A. Eckmann, State Laboratory of Hygiene, Madison, Wisconsin; M. Kanarek, Department of Preventive Medicine, University of Wisconsin, Madison, Wisconsin

Formaldehyde Monitoring in Domestic Environments, T.G. Matthews and T.C. Howell, Monitoring Technology and Instrumentation Group, Health and Safety Research Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee

Comprehensive Air Pollution Measurements in Environmental Control Unit, R.T. Edgar and W.J. Rea, Brookhaven Environmental Unit, Dallas, Texas

Simultaneous Measurement of Airborne Amines, Nitrosating Potential and Nitrosamines, D.H. Fine, D.P. Rounbehler, and S.J. Bradley, New England Institute for Life Sciences, Waltham, Massachusetts

A Longitudinal Study of Air Contaminants in a Newly Built Preschool, B. Berglund, I. Johansson, and T. Lindvall, Department of Psychology, University of Stockholm, Stockholm, Sweden

WEDNESDAY, OCT. 14

Morning Parallel Session

9:00 a.m.-12:30 p.m.

Session C1-Health Effects of Indoor Pollutants

Chairpersons: M. Lebowitz, University Health Sciences Center, The University of Arizona, College of Medicine, Tucson, Arizona; J. Stolwijk, Yale University School of Medicine, New Haven, Connecticut

Indoor Climate Problems in Danish Dwellings. Complaints and Diseases Referred to the Type and Materials of Dwellings and the Living Habits, O. Valbjørn, P.A. Nielsen, and J. Kjaer, Danish Building Research Institute, Hørsholm Denmark

Investigation of Health Effects and Environmental Measures in a Large Office Building, M.S. Levine, Center for Occupational and Environmental Health, The John Hopkins University, Baltimore, Maryland

The Impact of Different Ventilation and Lighting Levels on Office Building Syndrome: An Experimental Study, E. Sterling, Cornerstone Planning Group Limited, Granville Island, Vancouver, British Columbia, Canada

Environmental Control of Indoor Air Pollution (Challenge Testing in Humans With Ambient Chemicals), W.J. Rea, R.E. Smiley, D.E. Sprague, R.T. Edgar, E.J. Fenyves, M. Greenberg, and A.R. Johnson, Brookhaven Environmental Unit, Dallas, Texas

Lung Collagen Metabolism in Rats Exposed to Nitrogen Dioxide, J.A. Last, Department of Internal Medicine, University of California School of Medicine, Davis, California

Respiratory Irritation Due to Carpet Shampoos: Two Outbreaks, K. Kreiss, M.G. Gonzalez, K.L. Conright, and A.R. Scheere, Colorado Department of Health, Denver, Colorado

Formaldehyde in Indoor Air: Sources and Toxicity, K.C. Gupta, A.G. Ulsamer and P.W. Preuss, Consumer Product Safety Commission, Bethesda, Maryland

Survey of Indoor Formaldehyde Levels and Apparent Building-Related Illness in Conventional Housing in Delaware County, Indiana, T. Godish, Ball State University, Muncie, Indiana

Irritant Symptomatology, Clinical Observations and Formaldehyde Exposure Among Wisconsin Mobile Home Residents, H. Anderson, L. Hanrahan, K. Dally, Wisconsin Division of Health, Madison, Wisconsin; J. Rankin, Department of Preventive Medicine, University of Wisconsin, Madison, Wisconsin

A Multivariate Analysis of Health Effects in a Cohort of Mobile Home Residents Exposed to Formaldehyde, L. Hanrahan, H. Anderson, and K. Dally, Wisconsin Division of Health, Madison, Wisconsin; A. Eckmann, State Laboratory of Hygiene, Madison, Wisconsin; M. Kanarek, Department of Preventive Medicine, University of Wisconsin, Madison, Wisconsin

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